tho' he never could be induced to take any kind of Meat or Drink; and thus he continued in pretty good Health, and freſh coloured, till the 9th day of *June*, 1719. when he was ſeized again with a ſevere Fever; and upon the 10th at Night, his Father preſſed him extreamly to take a little Milk boiled with Oat-meal, which at length he agreed to; and he took a Spoonful of it, which ſtuck ſo long in his Throat, that his Parents thought he had been choaked; and ever ſince he has taken a little Food, but ſo very little, that a Halfpenny Loaf ſerves him eight Days. That all the time he faſted, he never had any Evacuation either by Stool or Urine; and it was fourteen or fifteen days after he began to eat, that he got any benefit that way; and that he is now in pretty good Health, but ſtill wants the uſe of one of his Limbs. And this is the Truth, as we ſhall anſwer to God.

James Jackſon,
Elizabeth Bell,
Charles Browne, Baily.
Gilbert Anthone, Clerk.

IX. *A Diſcourſe concerning a Method of diſcovering the Virtues of Plants by their external Structure. By the ſame.*

HAving hitherto delivered my Thoughts concerning the ſtructure of the Flowers, Fructification, various Methods, Generation and Nouriſhment of Plants, I now come to add ſomewhat concerning their Virtues. I cannot enough admire the Judiciouſneſs and Sagacity of

of the Ancients, who, without any of thoſe means made uſe of by the Moderns, have handed down to us ſuch an account of the Virtues of thoſe Plants, which by the unanimous Conſent of all Phyſicians and Pharmacians, are more particularly dedicated for uſe in Phyſick, that all the laborious Endeavours of their inquiſitive Succeſſors, have never been able to outdo them. It muſt have been a long Tract of Experience, which enabled *Dioſcorides* and *Theophraſtus* to collect and receive from their wiſe Anceſtors, ſuch a laſting Catalogue of the Virtues of Plants, as ſcarce any thing has been added to even to this day. The Royal Academy at *Paris*, has been at great pains to find out the Virtues of Plants by the Chymical Analyſis, and ſeveral other Experiments, of which we have the Abſtracts in *Tournefort's Hiſtoire des Plantes aux environs de Paris*, and *Tauvry* his *Traité des Medicaments*: But theſe laborious Endeavours only ſerve to confirm what the Ancients advanced, without any new Diſcovery. For *Tournefort*, after having made the Experiments with the *Tourneſol* and blue Paper, and given an exact Account of the ſeveral active Chymical Principles, which are obſerv'd in ſuch and ſuch a Plant, uſually concludes, *ainſi il n'eſt pas ſurpenant s'il a de telles vertues. Therefore*, ſays he, *'tis not ſurpriſing if it is endow'd with ſuch Virtues*; which is nothing but giving a Reaſon why the Ancients believed they were good for ſuch a Diſtemper.

The Means uſed by our Forefathers to diſcover the Virtues of Plants, and their Uſe in the ſeveral Diſeaſes, as they were the moſt ſimple, ſo they are moſt aſſiſting at this very time. It ſeems they have narrowly conſidered their *Facies externa*, and thus concluded; If ſuch a Plant partake of ſuch Virtues, ſuch another ſo very like to it, muſt be endow'd with the ſame, *v. g.*

Apium and *Fæniculum* have the ſame manner of flowering; both produce their Seed after the ſame manner; their Roots are both alike, being long, white, ſtreight, carnous, *&c.* Therefore ſince a long Tract of Experience, handed down by Tradition, ſhews that ſuch a Plant has ſuch Virtues, ſuch another like to it muſt have the ſame. Thus we find *Apium*, *Fæniculum*, *Petroſelinum*, all join'd together, and preſcrib'd as the opening Roots in the Diſpenſatory.

This induc'd that expert Botaniſt, and diligent Enquirer into the Knowledge of the *Materia Medica*, the Celebrated Dr. *Herman*, to lay down theſe general Maxims, *Quæcunque flore & ſemine conveniunt eaſdem poſſident virtutes*: And *Omnia ſemina ſtriata ſunt carminativa*. The late ingenious and accurate Natural Hiſtorian, ſometime a noted Member of this Society, Mr. *James Petiver*, a few Years ago obliged us with a Diſcourſe upon this Subject, printed in the Philoſophical Tranſactions, in which he obſerves, That the *Plantæ Umbelliferæ*, *Galeatæ*, *Verticillatæ*, *Tetrapetalæ*, *Siliquoſæ* and *Siliculoſæ*, for the generality, have a tendency to the ſame Virtue and Uſe. This was the occaſion of ſome Intercourſe betwixt him and me, in two or three Letters, printed in my Miſcellaneous Obſervations, in which he obſerves, that the *Plantæ Flore ſtamineo*, which he calls Blink Flowers; ſuch as Hops, Nettles, Docks, Sorrels, Betes, Blites, Spinage, *Oraches*, *Bonus Henricus*, or *Engliſh Mercury*, and *Kali minus album*, are all good Sallads, raw, or boil'd. Alſo the *Leguminoſæ*, or Pea kind; ſuch as Peaſe, Beans, *Phaſeoli*, are good nutritive Food for Men; and the Tares, Trefoils, *Medicæ*, *Loti*, and Saintfoins, are good *Pabulum* or Fodder for Beaſts. To theſe he adds the *Frumentaceæ* or *Cereales*; as the Wheat, Rye, and Oats, in *Europe*, and the Maiz, Millet, Panick, and *Sorgum*, in the *Indies*, make good Bread; and that from

from Barly and Rice we have good fermented and ſpirituous Liquors. To theſe he adds, that the *Iris*, or Flag-kind, in Foreign Parts, afford us prevalent Drugs, of no mean Virtue and Uſe; ſuch as Ginger, Galingal, *Turmerick*, *Zedoary*, *Caſumuniar*, and *Cardamoms*. The *Laurus*, or Bay-kind, has ſome noble Attendants of the ſame Tribe with it ſelf; ſuch as *Cinnamon*, *Caſſia Lignea*, *Malabathrum*, *Folium Indicum*, and the *Camphire* Tree.

In anſwer to his, I added, that all the *Pappeſcentes & Lacteſcentes*, ſuch as the *Sonchus*, *Dens Leonis*, *Hieracium*, *Lactuca*, *Cichoreum*, *Endivia*, *Tragopogon*, and *Scorzonera*, have the ſame Virtues, and ſerve for the ſame Uſes both in the Kitchin and Shops. All the *Aſperifoliæ*, ſuch as *Borago*, and *Bugloſſum*, are thoſe which are called Coolers in a more or leſs intenſe degree; for ſome are Aſtringent, as *Conſolida*, others Narcotick, as *Cynogloſſum*. All the *Galeatæ* and *Labiatæ*, for the moſt part conſiſt of ſubtile Particles, and are therefore Cephalicks; as *Lavendula*, *Roſmarinus*, *Majorana*, &c. *Mentha*, *Pulegium*, *Meliſſa*, Hyſtericks. Attenuaters and Inciders, as *Salvia*, *Horminum*, *&c.* A fourth Sort ſomewhat Aſtringent, as *Bugula*, *Lamium*, *&c.* So that by having an *Idea* of the Virtues of a *Majorana*, *Mentha*, *Salvia*, *Lamium*, we come to know the Virtues of all their Congeners. All the *Papavers* are Narcotick. The *Eſulæ* and *Tithymali* are Cathartick; tho' both theſe are Lacteſcent, yet they differ from thoſe which are Pappeſcent alſo. All the *Malva*'s are chiefly Emollient; the Pentaphyllous kind Aſtringent; as are alſo the Plantains. The Corymbiferous kind, are either Stomachicks, Hyſtericks, or Vermifuges. The Gentian Bitters, Stomachicks, Hyſtericks, and Febrifuges. The *Pomiferæ Scandentes*, as Cucumbers, Melons, *&c.* are Coolers; but ſome are Cathartick, as *Cucumis ſylveſtris*, and *Colocynthis*. The *Convolvuli*, as *Mechoacanna*, *&c.* are Purgative; to which *Jalappa*, by

Flower

Flower and Fruit, is near of kin. *Digitalis* and *Gratiola*, are Emetick and Purgative. The ſquamous and bulbous Roots are Emollient, and more or leſs Acrid. Thus *Allium*, *Cepa*, *Porrum*, unboil'd, are Hot, Diuretick and Lithontriptick. All the *Seda* are coolers.

Thus at the firſt view, without knowing the Chariſtericks ſo nicely as Botaniſts do, but only exactly obſerving the *Facies externa* of the Plant, when the Virtue of one Species is known, the Virtues of all the Congeners may be gueſs'd at, if not fully determin'd.

The next ſimple Method of the Ancients, to diſcover the Virtues of Plants, ſeems to have been the Taſte and Smell. Thus *Apium* and *Petroſelinum* have a Taſte reſembling to each other, therefore they are to be preſcribed together. The Seeds of *Fæniculum* and *Aniſum* have much of the ſame taſte and ſmell, and therefore both of them muſt be Carminative, or Expellers of Wind, *&c.* They had likewiſe recourſe to the Temperament and Qualities, ſuch as Hot and Dry, Cold and Moiſt, in the 1ſt, 2d, 3d, and 4th Degrees. But ſince the Taſte is not always the ſame in one Perſon, and that different Perſons have different Senſations; that, as being too much ſubjected to the different Tempers and Imaginations of People, is deſervedly exploded.

I have lately compos'd a Compendious Scheme of all the Plants us'd in Phyſick; in which, that I might render it leſs liable to Objection, and not ſeem to introduce any innovation in the diſtribution, I have not ſo ſtrictly obſerv'd the making their Characteriſtick Notes and Virtues agree, as the diſtributing them according to their Operations.

The firſt Diſtribution, is, by joining together all thoſe which are preſcribed under one Title in the Shops; ſuch as the Opening Roots, Emollient and Capillary Herbs, Cordial Flowers, hot and cold, greater and leſ-

ſer

ſer Seeds. In this I have not kept to the Diſpenſatory Catalogue, but have added ſeveral Congeners, that I might give a Specimen of what is propoſed concerning the Virtues and Characters. Thus I have added *Cuminum* and *Meum* to *Fæniculum*; *Laurus Alexandrina*, and *Hippogloſſum* to *Ruſcus*; *Alcea* to *Malva* and *Althea*; *Bonus Henricus*, *Atriplex*, *&c.* to *Beta*, under the Title of *Oleraceous Emollients*; *Lingua Cervina*, *Polypodium*, *&c.* to the Capillary Herbs; and ſo on in the Cordial Flowers, and hot and cold Seeds.

I have, 2dly, diſtributed the Plants into ſuch as are Altering and Evacuating. The Altering are divided into thoſe that conſiſt of Groſs, and ſuch as are ſaid to conſiſt of Tenuious and Subtile Particles. Thoſe conſiſting of Groſs Particles, are Aſtringent. Such as prevent Abortion and Ruptures, Stoppers of the *Fluxus menſtruus immodicus*, *Fluor Albus*, *Diarrhæa*, *Dyſentery*; good in Burnings, Bruiſes, Cancers, ſpitting of Blood. Groſs Medicines are Narcoticks, Vulnerary, good for Scrophulous Tumors, Squinancy, Refrigerators.

Plants conſiſting of ſubtile Particles, are Aperient; ſuch are all Opthalmicks, Arthriticks, Nephriticks, Lithontripticks, Diureticks, Hydropicks. They are alſo Pectoral, Anti-Apoplectick, Paralytick, Hyſterick, Hypochondriack, Provokers of Birth, Febrifuges, Scorbuticks, Stomachicks, Vermifuges.

The Evacuating Medicines are Emetick, or ſuch as work upward; or Laxative and Purgative, ſuch as work downwards. The Nutritive Medicines are the *Plantæ Cereales* and *Leguminoſæ*.

It is here to be noted, that I have not inſerted any Plant in this Table, but ſuch as are indigenals in *Britain*, or ſuch as are Cultivated in *Britiſh* Gardens; and to render it ſtill the more uſeful, I have added ſuch particular Parts as are uſed in the Shops; *viz.* the Root,

Root, Herbs, Leaves, Tops, Flowers, Fruit, Nuts, Bark and Wood.

Having thus reduc'd within a ſmall compaſs the moſt conſiderable Virtues of Plants, both General and Specifick, and ſhewn the moſt eaſy, ſimple, and natural Method of diſcovering them, I would not be ſo far miſunderſtood, as if I were averſe from uſing other Experiments in finding them out. On the contrary, I could heartily recommend another Method, hitherto much neglected, and which I am convinc'd would be of great Uſe, if accurately gone about; and that is, their Infuſion in different Liquors, in order to find out the proper *Menſtruum* for extracting their more uſeful Parts.

Every Phyſician is ſenſible that there are ſeveral Simples, and theſe ſpecifick too, which adhibited in Subſtance, are of great efficacy; whereas, if their Contexture is diſſolved, their Parts can never be ſo reunited as to produce the ſame effect. Thus *Cortex Peruvianus* is never ſo effectual, as when given in Powder. That there are others which will communicate their uſeful Particles when infus'd, to one Liquor and not to another; and that the ſame Subſtance will impregnate two Liquors diverſely, according to the different *Menſtruums*. That expert Chymiſt, Mr. *Lemery*, adviſes to infuſe *Opium* in Water and Spirit of Wine, ſeparately; and after to mix both Infuſions together, in order to make the *Laudanum* or Extract; wiſely conſidering, that the Water will be impregnated by the more ſoluble ſaline Particles, whereas the Spirit will only imbibe the more reſinous; for Water is the proper *Menſtruum* for a ſaline Subſtance, which will not diſſolve in Spirit of Wine; this rather hardening and preſerving it from being diſſolv'd, either by Air or Water. Thus the moſt convenient way to preſerve the volatile Salt of Animals,

Animals, is to keep it among Brandy; and every one knows, that Water immediately diſſolves Sugar, which Brandy will not do. Therefore *Senna* will impart its purgative Quality to Water or Ale, having its ſaline Particles more diſengag'd; but the purgative Virtue of *Jallap* conſiſting in its reſine, requires Wine or Brandy for the *Menſtruum* or Diſſolvent.

Therefore, in my humble Opinion, a moſt proper Means to find out the Virtues of Plants, is to have recourſe to the proper *Menſtruums*. A Simple may be infus'd in Rain Water, Snow Water, or pure Fountain Water; if its Texture is looſe, and it abound with ſaline Particles, thoſe pure Elements will be impregnated by it; but if the Texture be more compact, firm and ſolid, if its Particles are more fix'd, Mineral Waters; or by the addition of a proportional quantity of the fix'd Salt of a Plant, a proper *Menſtruum* may be prepared. And next to the adhibiting of the Bitters in ſubſtance, ſuch as Wormwood, Gentian, and Camomile Flowers, this is the moſt convenient way of adminiſtring them; not but their Tincture extracted by Brandy or Wine may do very well; But ſince they abound very much with a fix'd Salt, a great deal of their Virtue may be communicated to a leſs ſpirituous Liquor, when a more ſpirituous will not extract it. The proper means to know which *Menſtruum* will beſt extract the more uſeful parts of any Simple, or rather ſuſpend its more ſolid Particles, is to uſe the Hydroſtatical Ballance; when having weighed the *Menſtruum* before infuſion, and after the *Materies* has been intus'd for ſome time, it will ſoon be obſerv'd by the Augmentation of the Weight, how far the *Menſtruum* is impregnated, and which is the moſt proper Diſſolvent. The propereſt Method of adhibiting the fix'd Simples, if not in ſubſtance, is by Decoction, Infuſion, or Tincture. (*N. B.*

It is call'd Infuſion, when the *Menſtruum* is either Water, Ale, or Wine; but a Tincture, when Brandy is employ'd;) and the beſt way to obtain the uſeful Particles of volatile, tenuious, or ſubtile Subſtances, is by Diſtillation. Theſe may indeed be proper Ingredients for an Infuſion or Tincture. But there are a great many fix'd Subſtances as improper for Diſtillation as the Volatile are improper for Extracts. Thus I have thought fit to ſhew the means of finding out the Virtues of Plants without diſſolving their Texture: But if any has a mind rather to do it by the Chymical Analyſis, this is not to diſſuade them.

X. *An Account of a Book, Entituled,* Geometria Organica, ſive Deſcriptio Linearum Curvarum Univerſalis. *Auctore* Colino Mac Laurin, *Matheſeos in Collegio Novo* Abredonenſi *Profeſſore, &* R. S. S.

THE Deſign of this Treatiſe, is to examine the various Methods propoſed by Mathematicians, for deſcribing Geometric Curves; and at the ſame time to demonſtrate a new one, infinitely more General than any hitherto publiſhed; built on thoſe Theorems propoſed by our Illuſtrious Preſident, at the end of his Enumeration of the Lines of the Third Order.

The great Improvements that have been made by moſt of the other Modern Geometricians, have related chiefly to the Lines of the Infinite Order; they have been ſo fond of applying their new Methods to Mechanic and Exponential Curves, (which undoubtedly ought to give